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**Zhao et al.**

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(54) **LOCKING AND UNLOCKING A MOBILE  
DEVICE USING FACIAL RECOGNITION**

(75) Inventors: **Lihua Zhao**, Cupertino, CA (US);  
**Richard Tsai**, Cupertino, CA (US)

(73) Assignee: **Apple Inc.**, Cupertino, CA (US)

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See application file for complete search history.

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Primary Examiner — Jennifer Mehmood

Assistant Examiner — Yong Hang Jiang

(74) Attorney, Agent, or Firm — Blakely, Sokoloff, Taylor & Zafman LLP

(57) **ABSTRACT**

In an embodiment of the invention, an unlocked mobile device is configured to capture images, analyze the images to detect a user's face, and automatically lock the device in response to determining that a user's face does not appear in the images. The camera capturing and face recognition processing may be triggered by the device having detected that it has been motionless for a threshold period of time. In another embodiment, a locked mobile device is configured to capture an initial image using its camera, capture a new image in response to detecting movement of the device, determine that the device moved to a use position, capture a subsequent image in response to determining that the device moved to a use position, analyze the subsequent image to detect a user's face, and unlock the device in response to detecting the user's face. Other embodiments are also described and claimed.

**22 Claims, 4 Drawing Sheets**

